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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,061	03/24/2005	Congyu Yan	US 051914-1 (20050359.ORI)	2573
23595 7590 04/26/2007 NIKOLAI & MERSEREAU, P.A. 900 SECOND AVENUE SOUTH SUITE 820 MINNEAPOLIS, MN 55402			EXAMINER LEE, PING	
			ART UNIT	PAPER NUMBER
			2615	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/26/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/529,061

Applicant(s)

YAN, CONGYU

Examiner

Ping Lee

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 2, 6, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al (hereafter Adams) (US006380978B1) in view of Pollak (US006356644B1) and Brown (US 4,324,951).

Regarding claims 1 and 6, Adams discloses, in Fig. 3, a 5.1 sound channel digital surround earphone, comprising an earphone body (although not explicitly shown, it is inherently connected to a corded headphone output) that is connected through a conductive line (cord is inherently included); wherein an power amplifier including a power supply input unit (38), voltage stabilization a filter circuit (40), an amplification circuit (32) and a 5.1 sound channel signal input port (connected to DVD media), an external power supply (battery) providing electric power through the power supply input unit (38) and the voltage stabilization filter circuit (40) to an output end of the voltage stabilization filter circuit ("To All Subsystems") for delivering electric power, the amplification circuit (32) having an input end connecting to the 5.1 sound channel signal input port (connected to DVD media). Adams fails to show that the amplification circuit amplifying six sound channels and a line controller, having a plurality of potentiometers, that is connected to the power amplifier.

As shown and discussed Adams, one skilled in the art would reasonably assumed that the amplifier circuit in Adams could amplify at least two sound channels

for each speaker on each side of the headphone. Pollak teaches and shows a headphone for providing three-dimensional surround sound effect, in Fig. 1, with two speakers on each side of the headphone, i.e., a headphone with four channels. Pollak further teaches more speaker(s) could be provided for each side of the headphones (col. 4, lines 10-16) to provide additional sound effect (inclusion of delayed sound) or more realistic overall sound range (inclusion of low frequency sounds). Adams never limits the specific type of headphones to be coupled to sound system as shown in Fig.

3. One skill in the art would have expected that any specific type of headphones, including the one as taught in Pollak, could be used without generating any unexpected result. In order to provide sound in six channels for Pollak's headphones, the amplification circuit of Adams has to be modified to accommodate six channels. Thus, it would have been obvious to one of ordinary to modify Adams by modifying the amplification circuit to couple the system to six-channel headphones as taught in Pollak in order to provide a superior surround sound experience to the user.

Adams teaches a general sound decoder in Fig. 3, but fails to disclose any volume control feature, even though this was a commonly known user-friendly feature. Brown teaches a line controller (26' as shown in Fig. 3) that has two separate adjusters for controlling the volume of two speakers (one on each side of the headphones). With more than two speakers being provided on Pollak's headphones, it would have been obvious to have additional volume controls to control additional speaker output. Although Brown fails to show potentiometer as the volume adjuster, Examiner takes Official Notice that this feature was notoriously well known in the art. Thus, it would

have been obvious to one of ordinary skill in the art to modify Adams and Pollak by incorporating a line controller as suggested by Brown in order to allow the user to adjust the sound according to his/her preference.

Regarding claims 2 and 7, Adams shows other corresponding function device (display, video encoder and ... etc).

3. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams, Pollak and Brown as applied to claims 1 and 6 above, and further in view of Huang (US006394852B1).

Regarding claims 3 and 8, Adams fails to show 7-pin socket. Adams teaches a general headphone connected to the power amplifier without providing specific detail on the headphone. Huang teaches a headphone with 7-pin plug mating with a 7-pin socket of the power amplifier. Thus, it would have been obvious to further modify Adams, Pollak and Brown by utilizing the headphone and the 7-pin socket at the power amplifier as taught in Huang in order to supply multiple channels to headphone.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adams, Pollak and Brown as applied to claim 1 above, and further in view of Hoshino et al (hereafter Hoshino) (US005787182A).

Regarding claim 4, Adams shows the integrated circuit (col. 7, line 14), but fails to show an audio bypass circuit and a coupling capacitor. Adams teaches a general amplifier circuit without providing specific detail. Hoshino teaches how an IC being connected to an audio bypass circuit (Ca as shown in Fig. 3) and a coupling capacitor (Co) to avoid the reduction of gain the low frequency range. Thus, it would have been

obvious to one of ordinary skill in the art to further modify Adams and Thompson in view of Hoshino by having the audio bypass circuit and a coupling capacitor in order to maintain the gain at low frequency range.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adams. Pollak and Brown as applied to claim 1 above, and further in view of Scribner et al (hereafter Scribner) (US005555466A).

Regarding claim 5, Adams fails to show a switch for switching CD and DVD. Scribner teaches an audio and video control device with a switch located close to the user allowing the user to select different audio source medium. Thus, it would have been obvious to one of ordinary skill in the art to further modify Adams, Pollak and Brown in view of Scribner by having a switch at the line controller in order to allow the user of the headphone to change the program source.

### ***Response to Arguments***

6. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2615

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

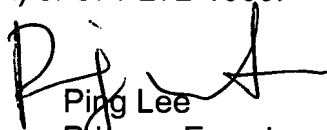
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522.

The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Ping Lee  
Primary Examiner  
Art Unit 2615

pwl